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RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/036,507

DATE: 04/11/2002

TIME: 12:58:32

Input Set : A:\SEQ LISTING.txt

Output Set: N:\CRF3\04112002\J036507.raw

3 <110> APPLICANT: BRUNHAM, ROBERT C
5 <120> TITLE OF INVENTION: DNA IMMUNIZATION AGAINST CHLAMYDIA INFECTION
7 <130> FILE REFERENCE: 1038-1210 MIS:jb
9 <140> CURRENT APPLICATION NUMBER: 10/036,507
10 <141> CURRENT FILING DATE: 2002-01-07
12 <150> PRIOR APPLICATION NUMBER: 09/055,765
13 <151> PRIOR FILING DATE: 1998-04-07
15 <150> PRIOR APPLICATION NUMBER: 08/893,381
16 <151> PRIOR FILING DATE: 1997-07-11
18 <160> NUMBER OF SEQ ID NOS: 17
20 <170> SOFTWARE: PatentIn Ver. 2.1
22 <210> SEQ ID NO: 1
23 <211> LENGTH: 393
24 <212> TYPE: PRT
25 <213> ORGANISM: Chlamydia trachomatis
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32 20 25 30
34 Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
35 35 40 45
37 Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Arg Met Gly Tyr
38 50 55 60
40 Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys
41 65 70 75 80
43 Glu Phe Gln Met Gly Asp Lys Pro Thr Ser Thr Thr Gly Asn Ala Thr
44 85 90 95
46 Ala Pro Thr Thr Leu Thr Ala Arg Glu Asn Pro Ala Tyr Gly Arg His
47 100 105 110
49 Met Gln Asp Ala Glu Met Phe Thr Asn Ala Ala Cys Met Ala Leu Asn
50 115 120 125
52 Ile Trp Asp Arg Phe Asp Val Phe Cys Thr Leu Gly Ala Ser Ser Gly
53 130 135 140
55 Tyr Leu Lys Gly Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly
56 145 150 155 160
58 Asp Asn Glu Asn Gln Ser Thr Val Lys Thr Asn Ser Val Pro Asn Met
59 165 170 175
61 Ser Leu Asp Gln Ser Val Val Glu Leu Tyr Thr Asp Thr Ala Phe Ser
62 180 185 190
64 Trp Ser Val Gly Ala Arg Ala Ala Leu Trp Glu Cys Gly Cys Ala Thr
65 195 200 205
67 Leu Gly Ala Ser Phe Gln Tyr Ala Gln Ser Lys Pro Lys Val Glu Glu

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68      210      215      220
70 Leu Asn Val Leu Cys Asn Ala Ala Glu Phe Thr Ile Asn Lys Pro Lys
71 225      230      235      240
73 Gly Tyr Val Gly Gln Glu Phe Pro Leu Ala Leu Ile Ala Gly Thr Asp
74      245      250      255
76 Ala Ala Thr Gly Thr Lys Asp Ala Ser Ile Asp Tyr Asn Glu Trp Gln
77      260      265      270
79 Ala Ser Leu Ala Leu Ser Tyr Arg Leu Asn Met Phe Thr Pro Tyr Ile
80      275      280      285
82 Gly Val Lys Trp Ser Arg Ala Ser Phe Asp Ala Asp Thr Ile Arg Ile
83      290      295      300
85 Ala Gln Pro Lys Ser Ala Thr Ala Ile Phe Asp Thr Thr Thr Leu Asn
86 305      310      315      320
88 Pro Thr Ile Ala Gly Ala Gly Asp Val Lys Ala Ser Ala Glu Gly Gln
89      325      330      335
91 Leu Gly Asp Thr Met Gln Ile Val Ser Leu Gln Leu Asn Lys Met Lys
92      340      345      350
94 Ser Arg Lys Ser Cys Gly Ile Ala Val Gly Thr Thr Ile Val Asp Ala
95      355      360      365
97 Asp Lys Tyr Ala Val Thr Val Glu Thr Arg Leu Ile Asp Glu Arg Ala
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114      20      25      30
116 Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
117      35      40      45
119 Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Arg Met Gly Tyr
120      50      55      60
122 Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys
123 65      70      75      80
125 Glu Phe Gln Met Gly Ala Lys Pro Thr Thr Thr Thr Gly Asn Ala Val
126      85      90      95
128 Ala Pro Ser Thr Leu Thr Ala Arg Glu Asn Pro Ala Tyr Gly Arg His
129      100      105      110
131 Met Gln Asp Ala Glu Met Phe Thr Asn Ala Ala Cys Met Ala Leu Asn
132      115      120      125
134 Ile Trp Asp Arg Phe Asp Val Phe Cys Thr Leu Gly Ala Ser Ser Gly
135      130      135      140
137 Tyr Leu Lys Gly Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly
138 145      150      155      160
140 Asn Asn Glu Asn Gln Thr Lys Val Ser Asn Gly Ala Phe Val Pro Asn

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141          165          170          175
143 Met Ser Leu Asp Gln Ser Val Val Glu Leu Tyr Thr Asp Thr Ala Phe
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146 Ala Trp Ser Val Gly Ala Arg Ala Ala Leu Trp Glu Cys Gly Cys Ala
147          195          200          205
149 Thr Leu Gly Ala Ser Phe Gln Tyr Ala Gln Ser Lys Pro Lys Val Glu
150          210          215          220
152 Glu Leu Asn Val Leu Cys Asn Ala Ala Glu Phe Thr Ile Asn Lys Pro
153 225          230          235          240
155 Lys Gly Tyr Val Gly Lys Glu Leu Pro Leu Asp Leu Thr Ala Gly Thr
156          245          250          255
158 Asp Ala Ala Thr Gly Thr Lys Asp Ala Ser Ile Asp Tyr Asn Glu Trp
159          260          265          270
161 Gln Ala Ser Leu Ala Leu Ser Tyr Arg Leu Asn Met Phe Thr Pro Tyr
162          275          280          285
164 Ile Gly Val Lys Trp Ser Arg Ala Ser Phe Asp Ala Asp Thr Ile Arg
165          290          295          300
167 Ile Ala Gln Pro Lys Ser Ala Glu Thr Ile Phe Asp Val Thr Thr Leu
168 305          310          315          320
170 Asn Pro Thr Ile Ala Gly Ala Gly Asp Val Lys Thr Ser Ala Glu Gly
171          325          330          335
173 Gln Leu Gly Asp Thr Met Gln Ile Val Ser Leu Gln Leu Asn Lys Met
174          340          345          350
176 Lys Ser Arg Lys Ser Cys Gly Ile Ala Val Gly Thr Thr Ile Val Asp
177          355          360          365
179 Ala Asp Lys Tyr Ala Val Thr Val Glu Thr Arg Leu Ile Asp Glu Arg
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182 Ala Ala His Val Asn Ala Gln Phe Arg Phe
183 385          390
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187 <211> LENGTH: 393
188 <212> TYPE: PRT
189 <213> ORGANISM: Chlamydia trachomatis
191 <400> SEQUENCE: 3
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193 1          5          10          15
195 Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser
196          20          25          30
198 Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
199          35          40          45
201 Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Arg Met Gly Tyr
202          50          55          60
204 Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Gln Thr Asp Val Asn Lys
205 65          70          75          80
207 Glu Phe Gln Met Gly Ala Lys Pro Thr Ala Thr Thr Gly Asn Ala Ala
208          85          90          95
210 Ala Pro Ser Thr Cys Thr Ala Arg Glu Asn Pro Ala Tyr Gly Arg His
211          100          105          110
213 Met Gln Asp Ala Glu Met Phe Thr Asn Ala Ala Tyr Met Ala Leu Asn

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214      115      120      125
216 Ile Trp Asp Arg Phe Asp Val Phe Cys Thr Leu Gly Ala Thr Ser Gly
217      130      135      140
219 Tyr Leu Lys Gly Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly
220 145      150      155      160
222 Asp Asn Glu Asn Gln Ser Thr Val Lys Lys Asp Ala Val Pro Asn Met
223      165      170      175
225 Ser Phe Asp Gln Ser Val Val Glu Leu Tyr Thr Asp Thr Thr Phe Ala
226      180      185      190
228 Trp Ser Val Gly Ala Arg Ala Ala Leu Trp Glu Cys Gly Cys Ala Thr
229      195      200      205
231 Leu Gly Ala Ser Phe Gln Tyr Ala Gln Ser Lys Pro Lys Val Glu Glu
232      210      215      220
234 Leu Asn Val Leu Cys Asn Ala Ala Glu Phe Thr Ile Asn Lys Pro Lys
235 225      230      235      240
237 Gly Tyr Val Gly Lys Glu Phe Pro Leu Asp Leu Thr Ala Gly Thr Asp
238      245      250      255
240 Ala Ala Thr Gly Thr Lys Asp Ala Ser Ile Asp Tyr Asn Glu Trp Gln
241      260      265      270
243 Ala Ser Leu Ala Leu Ser Tyr Arg Leu Asn Met Phe Thr Pro Tyr Ile
244      275      280      285
246 Gly Val Lys Trp Ser Arg Ala Ser Phe Asp Ala Asp Thr Ile Arg Ile
247      290      295      300
249 Ala Gln Pro Lys Leu Ala Thr Ala Ile Phe Asp Thr Thr Thr Leu Asn
250 305      310      315      320
252 Pro Thr Ile Ala Gly Ala Gly Glu Val Lys Ala Asn Ala Glu Gly Gln
253      325      330      335
255 Leu Gly Asp Thr Met Gln Ile Val Ser Leu Gln Leu Asn Lys Met Lys
256      340      345      350
258 Ser Arg Lys Ser Cys Gly Ile Ala Val Gly Thr Thr Ile Val Asp Ala
259      355      360      365
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262      370      375      380
264 Ala His Val Asn Ala Gln Phe Arg Phe
265 385      390
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269 <211> LENGTH: 393
270 <212> TYPE: PRT
271 <213> ORGANISM: Chlamydia trachomatis
273 <400> SEQUENCE: 4
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277 Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser
278      20      25      30
280 Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
281      35      40      45
283 Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Arg Met Gly Tyr
284      50      55      60
286 Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Glu Thr Asp Val Asn Lys

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287 65              70              75              80
289 Glu Phe His Met Gly Ala Lys Pro Thr Ser Thr Thr Gly Asn Ala Thr
290              85              90              95
292 Ala Pro Thr Thr Leu Thr Ala Arg Glu Asn Pro Ala Tyr Gly Arg His
293              100             105             110
295 Met Gln Asp Ala Glu Met Phe Thr Asn Ala Ala Cys Met Ala Leu Asn
296              115             120             125
298 Ile Trp Asp Arg Phe Asp Val Phe Cys Thr Leu Gly Ala Thr Ser Gly
299              130             135             140
301 Tyr Leu Lys Gly Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly
302 145              150             155             160
304 Asp Asn Glu Asn Gln Lys Thr Val Lys Ala Glu Ser Val Pro Asn Met
305              165             170             175
307 Ser Phe Asp Gln Ser Val Val Glu Leu Tyr Thr Asp Thr Thr Phe Ala
308              180             185             190
310 Trp Ser Val Gly Ala Arg Ala Ala Leu Trp Glu Cys Gly Cys Ala Thr
311              195             200             205
313 Leu Gly Ala Ser Phe Gln Tyr Ala Gln Ser Lys Pro Lys Val Glu Glu
314              210             215             220
316 Leu Asn Val Leu Cys Asn Ala Ala Glu Phe Thr Ile Asn Lys Pro Lys
317 225              230             235             240
319 Gly Tyr Val Gly Lys Glu Phe Pro Leu Asp Leu Thr Ala Gly Thr Asp
320              245             250             255
322 Ala Ala Thr Gly Thr Lys Asp Ala Ser Ile Asp Tyr Asn Glu Trp Gln
323              260             265             270
325 Ala Ser Leu Ala Leu Ser Tyr Arg Leu Asn Met Phe Thr Pro Tyr Ile
326              275             280             285
328 Gly Val Lys Trp Ser Arg Ala Ser Phe Asp Ala Asp Thr Ile Arg Ile
329              290             295             300
331 Ala Gln Pro Lys Ser Ala Thr Ala Ile Phe Asp Thr Thr Thr Leu Asn
332 305              310             315             320
334 Pro Thr Ile Ala Gly Ala Gly Asp Val Lys Thr Gly Thr Glu Gly Gln
335              325             330             335
337 Leu Gly Asp Thr Met Gln Ile Val Ser Leu Gln Leu Asn Lys Met Lys
338              340             345             350
340 Ser Arg Lys Ser Cys Gly Ile Ala Val Gly Thr Thr Ile Val Asp Ala
341              355             360             365
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357 1 5 10 15
359 Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser

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VERIFICATION SUMMARY

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